

## CLAIMS

1. A digital receiver part for a spread spectrum receiver, comprising  
 an input for an intermediate-frequency signal,  
 an output for outputting a carrier and code demodulated signal,  
 5 a code mixer for code demodulation of the signal by means of a local spreading code replica,  
 a carrier mixer for carrier demodulation of the signal by means of a local carrier replica,  
 first means for lowering the sampling frequency of the signal,  
 10 said code mixer being arranged to precede said carrier mixer on the signal path,  
 said first means being arranged between said code mixer and said carrier mixer, and  
 the output of the carrier mixer being functionally connected as said  
 15 output of the digital receiver part.
2. A receiver part as claimed in claim 1, the receiver part further comprising  
 second means for lowering the sampling frequency of the signal,  
 said second means being arranged to succeed said carrier mixer on the signal  
 20 path, and having an output that is the output of the digital receiver part.
- a* 3. A receiver part as claimed in claim 1 ~~or 2~~, wherein  
 the first and the second decimation means are implemented with  
 'integrate and dump' type of filters.
- a* 4. A receiver part as claimed in claim 1 ~~or 2~~, comprising, for the  
 25 generation of a local spreading code replica,  
 a code generator for generating the local spreading code replica for the code mixer,  
 a frequency generator for controlling the code generator, and  
 code tracking means for controlling the generation means on the  
 30 basis of the output of the carrier mixer.
- a* 5. A receiver part as claimed in claim 1 ~~or 2~~, comprising, for the  
 generation of a local carrier replica,  
 a frequency generator for generating the local carrier replica for the  
 carrier mixer, and  
 35 carrier tracking means for controlling the frequency generator on the

basis of the output of the carrier mixer.

6. A digital receiver part of a spread spectrum receiver, said receiver part comprising

- an input for an intermediate-frequency signal,
- 5 an output for outputting a carrier and code demodulated signal,
- a spreading code demodulator part, to whose input is connected the intermediate-frequency signal, a carrier demodulator part, which succeeds the spreading code demodulator part on the signal path, and a processing part, which succeeds the carrier demodulator part on the signal path, and from
- 10 whose output a carrier and code demodulated signal is obtained,
- the spreading code demodulator part comprising at least two signal paths, both of which comprise
  - a) a code mixer for code demodulation of the signal by means of a local spreading code replica, and
  - 15 b) first means for lowering the sampling frequency of the signal, said first means being arranged to succeed the code mixer on the signal path, and
- the carrier demodulator part comprising
  - a) a carrier mixer for carrier demodulation of the signal by means of
  - 20 a local carrier replica, and
  - b) a multiplexer for directing signals from the outputs of the first means of the spreading code demodulator part in a time multiplexed manner to the carrier mixer.

7. A receiver part as claimed in claim 6, wherein the carrier demodulator part of the receiver part further comprises

- 25 second means for lowering the sampling frequency of the signal, said second means being arranged between said carrier mixer and processing part on the signal path.

8. A spread spectrum receiver for receiving a spread spectrum signal and for generating a carrier and code demodulated signal, the receiver comprising

- a radio-frequency part for filtering the desired frequency component from the received spread spectrum signal and mixes said frequency component to an intermediate frequency, and
- 35 a digital receiver part to which an intermediate-frequency signal, obtained from the radio frequency part, is applied and from whose output a car-

rier and code demodulated signal is obtained, and which comprises

a) a code mixer for code demodulation of the signal by means of a local spreading code replica,

5 b) a carrier mixer for carrier demodulation of the signal by means of a local carrier replica,

c) first means for lowering the sampling frequency of the signal, said code mixer being arranged to precede said carrier mixer on the signal path,

10 said first means being arranged between said code mixer and said carrier mixer,

the output of the carrier mixer being functionally connected as an output of the digital receiver part.

9. A receiver as claimed in claim 8, wherein said digital receiver part further comprises

15 second means for lowering the sampling frequency of the signal, said second means being arranged to succeed said carrier mixer on the signal path, and whose output is the output of the digital receiver part.

20 10. A spread spectrum receiver for receiving a spread spectrum signal and for generating a carrier and code demodulated signal, the receiver comprising

a radio-frequency part for filtering the desired frequency component from the received spread spectrum signal and for mixing said frequency component to an intermediate frequency, and

25 a digital receiver part to which an intermediate-frequency signal is applied and from whose output a carrier and code demodulated signal is obtained, the digital receiver part comprising

30 a spreading code demodulator part, to whose input is connected an intermediate-frequency signal, a carrier demodulator part, which succeeds the spreading code demodulator part on the signal path, and a processing part, which succeeds the carrier demodulator part on the signal path, and from whose output a carrier and code demodulated signal is obtained,

the spreading code demodulator part comprising at least two signal paths, both of which comprise

35 a) a code mixer for code demodulation of the signal by means of a local spreading code replica, and

b) first means for lowering the sampling frequency of the signal,

said means being arranged to succeed the code mixer on the signal path, and the carrier demodulator part comprising

a) a carrier mixer for carrier demodulation of the signal by means of a local carrier replica, and

- 5           b) a multiplexer for directing signals obtained from the outputs of the first means of the spreading code demodulator part in a time multiplexed manner to the carrier mixer.

11. A receiver as claimed in claim 10, wherein the carrier demodulator part of the receiver part further comprises

- 10           second means for lowering the sampling frequency of the signal, said second means being arranged between said carrier mixer and processing part on the signal path.